REMARKS

The present response is filed in reply to the Final Office Action mailed January 14, 2003 and the Applicant thereby respectfully requests entry of the following response and all amendments to the claims and specification presented herein, reconsideration and withdrawal of all grounds for rejection of the claims and application, and either allowance of the present application as amended herein or, if necessary, an Advisory Action.

First considering previously submitted amendments to the application, and while the Examiner has approved the previously submitted drawing amendments, the Examiner has declined to enter the previously submitted amendments to the specification on the grounds that the proposed amendments to the specification have not been submitted in the form required by patent office rules and procedures.

In response, the Applicant herein above re-submits the previously submitted amendments to the specification under the belief that the re-entered specification amendments and the form in which they are submitted above comply with patent office rules and procedures. If any specific further amendments are necessary, the Examiner is courteously invited to contact the undersigned Attorney of Record to discuss the same.

Next considering the claims, claims 41-54 are presently pending in the Application and claims 28-39 are rejected under 35 U.S.C. § 112 while claims 27-39 are rejected under 35 U.S.C. § 102 over the French patent to Courrier Jean Paul, hereinafter Courrier `921, and claim 40 is withdrawn from consideration as being directed to an independent or distinction invention from that recited in claims 1-26 or 27-39. The Applicant acknowledges and respectfully traverses all of the raised rejections in view of the following remarks.

In response, and after a thorough review of the claims, the Applicant has canceled claim 40 and claims 27-39 in favor of new claims 41-54. As may be seen, claims 41-54 correspond to claims 27-39 but are rewritten to address and overcome each of the existing issues under 35 U.S.C. § 112 and, in certain instances, to more explicitly set forth the claimed invention. It will also be noted that certain of the claims, and in particular claims 29 and 32,

have been rewritten into a base claims with multiple dependent claims to clarify the subject matter claimed in each claim.

It is the belief and position of the Applicant that claims 41-54 are directed to the same subject matter as claims 1-26 and 27-39 without the addition of any new subject matter and are fully supported by the present application as originally filed. It is further the belief and position of the Applicant that new claims 41-54 address and overcome all of the identified and potential issues that have been or could be raised under 35 U.S.C. § 112.

The Applicant therefore respectfully requests that the Examiner reconsider and withdraw all rejections of the claims under 35 U.S.C. § 112, and allow claims 41-54 as presented herein.

Next considering the rejections of the claims under 35 U.S.C. § 102 as anticipated by Courrier `921, the Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

The Applicant first wishes to note that while the Courrier `921 reference was cited in the International Preliminary Examination Report of the PCT, the Courrier `921 reference was cited only as constituting general background information pertaining to the invention and not as a reference affecting the patentability, e.g., novelty or the inventive step, of the present invention.

First considering the teachings of Courrier `921, it is shown therein, as in Figs. 1 and 2, that a vehicle actuating pedal 1 will result in all of the pressure applied to pedal 1 by the vehicle being applied directly into a holding tank 7 by means of piston/cylinder 4, 5. The resulting pressure in holding tank 7 then passes directly through electro-directional valve 12, which is in an "opening" position, to gate actuation cylinder 9, thereby causing gate actuating piston 13 to operate upon the gate to open the gate.

Subsequently, when the vehicle pressure is removed from pedal 1 and because electro-directional valve 12 has been moved to a "closing" position by the opening of the gate, the pressure in cylinder 9 is free to discharge through electro-directional valve 12 and into tank 5, which is the fluid circuit comprising piston/cylinder 4,5 and holding tank 7, so that tank 5 is effectively a reservoir for the hydraulic fluid in the system.

In this regard, it will be noted that the fluid path between tank 5 and piston/cylinder 4, 5 and the fluid path between piston/cylinder 4,5 and holding tank 7 each includes a check valve that prevents the flow of hydraulic fluid backward from holding tank 7 to piston/cylinder 4, 5 or from piston/cylinder 4, 5 to tank 5. As a consequence, the hydraulic fluid in the mechanism is forced to flow around the complete hydraulic circuit of the system in the direction piston/cylinder 4, 5, holding tank 7, cylinder/piston 9,13, tank 5 and back to piston/cylinder 4, 5.

In summary, Courrier `921 describes a system having a single, closed loop hydraulic fluid/pressure circuit in which the pressure actuating the system is completely unregulated, so that only the flow of an actuation pressure peak around the closed circuit path is controlled and directed. Even this degree of control extends only to determining when the pressure peak may move onwards around the path from holding tank 7, and even then only by operation of electro-directional valve 12, which is not a pressure regulating valve, and only as a function of whether the gate is open or closed.

In fundamental contrast from the teachings of Courrier `921, the apparatus of the present invention, as recited in independent claim 41, is a multi-path, pressure regulated and controlled system that regulates and controls the pressures in the apparatus to protect the apparatus from overpressures and that "recycles" such overpressures for more efficient operation of the apparatus. That is, and as recited in claim 41, the apparatus of the present invention limits and regulates the hydraulic pressure applied to actuate the gate and either "recycles" of discharges accumulations of overpressure generated by vehicles actuating the primary compression hydraulic cylinder, regardless of the weight or number of vehicles passing over the primary compression hydraulic cylinder.

As explicitly recited in claim 41, the gate opening/closing apparatus of the present invention includes a ground mounted pressure generating unit including a primary compression hydraulic cylinder for generating a gate actuation pressure in response to a gate actuation force applied to the pressure generating unit. It is explicitly recognized, rather than ignored as in Courrier `921, that the gate actuation pressure will comprise both the necessary and desired

gate opening pressure as well as an overpressure above the desired gate opening pressure wherein the overpressure is determined by the gate actuation force resulting from a vehicle impinging on the pressure generating unit.

According to the present invention as recited in claim 41, the pressure output of the primary compression hydraulic cylinder is connected to both a gate opening hydraulic cylinder and piston and an accumulator tank by means of multiple, branching pressure paths. As recited, the gate opening hydraulic cylinder and piston are actuated by the gate opening pressure to move the gate to the open position while the accumulator tank is connected from the primary compression hydraulic cylinder through an overpressure valve to accumulate the overpressure so that only the gate opening pressure is applied to the gate opening hydraulic cylinder and piston.

As also recited in claim 41, an expansion tank is connected from the accumulator tank through yet another pressure path that passes through a time delay/overpressure valve that remains closed for the chosen time delay and then, after expiration of the time delay, allows the discharge of the overpressure accumulated in the accumulator tank to the expansion tank. As recited, the time delay of the time delay/overpressure valve is selected so that the discharge of the accumulated overpressure from the accumulator tank to the expansion tank occurs only after a selected time after release of the gate actuation force from the ground mounted pressure generating unit. That is, after the gate has reached the open position.

As recited implicitly in claim 41 and more explicitly in some of the others dependent claims, such as in dependent claim 54, the time delay/overpressure valve also operates to discharge the accumulated overpressure in the accumulator tank to the expansion tank when the accumulated overpressure exceeds a predetermined limit, as may occur when a number of vehicles have passes through the gate in succession or when at least some of the vehicles are heavier than normal, thereby further regulating and limiting the system pressures to protect the mechanisms therein.

It is the belief and position of the Applicant that the present invention as recited in independent claim 41 is fully and fundamentally distinguished over and from the teachings of Courrier `921 because the present invention as recited in claim 41 is directed to a multi-path, pressure regulated and controlled system that regulates and controls the pressures in the apparatus to protect the apparatus from overpressures and that "recycles" such overpressures for more efficient operation of the apparatus.

In complete contrast from the apparatus of the present invention, Courrier `921 describes and suggests a system having only a single, closed loop hydraulic fluid/pressure circuit and, moreover, only a system in which the pressure actuating the system is completely unregulated, so that only the flow of an actuation pressure peak around the closed circuit path is controlled and directed.

In addition, it must be noted that the apparatus of the present invention is completely self-contained. That is, not only does the apparatus of the present invention does not require any outside source of power in order to operate, but the hydraulic pressure recycling mechanisms and paths provided through the accumulator tank allow significantly greater efficiency in use of the input energy provided by the vehicle forces exerted on the actuating hydraulic piston/cylinder.

In fundamental contrast from the apparatus of the present invention, however, the system taught and suggested by Courrier `921 requires an outside source of electrical power in order to control the one element that is essential to the basic operation of the Courrier '921 system, namely, the electro-directional valve 12. If the electro-directional valve 12 fails, either in itself or by failure of electrical power to the system, the entire system fails and locks into a single open or closed state and cannot even operate in some default mode.

It is the belief and position of the Applicant that the present invention, as recited in independent claim 41, is fully and patentably distinguished over and from the teachings and suggestions of Courrier `921 under the requirements and provisions of 35 U.S.C. § 102. It is further the belief and position of the that the fundamental failures of Courrier `921 to teach or

even suggest the present invention, as recited in claim 41, is further emphasized and made plain in that, in order to properly support an anticipation rejection under 35 U.S.C. § 102(b), the cited reference must disclose each and every limitation of the presently claimed invention. As discussed above, Courrier `921 essentially fails to teach, suggest or disclose, in any way, any of the essential elements of the present invention.

It is further the belief and position of the Applicant that dependent claims 42-54 are similarly fully and patentably distinguished over and from the teachings and suggestions of Courrier `921 under the requirements and provisions of 35 U.S.C. § 102. In particular, claims 42-54 incorporate all recitations and limitations of claim 41 by dependency therefrom and are thereby further distinguished over and from the teachings and suggestions of Courrier `921 for at least the same above discussed reasons. In addition, the recitations and limitations of claims 42-54 are all based upon the recitations and limitations of claim 41 and thus more explicitly recite the elements and limitations of claim 41, thus moving the subject matter of claims 42-54 even further from the teachings of Courrier `921.

The Applicant respectfully requests that the Examiner reconsider and withdraw all rejections of claims 41-54 over Courrier `921 under the requirements and provisions of 35 U.S.C. § 102, and the allowance of claims 41-54

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejections should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejections or applicability of the Courrier `921 reference, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the

Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,

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